

# Motorcycles

## Section 6: Motorcycles

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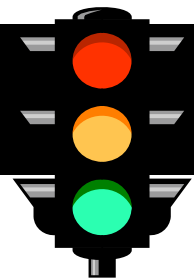
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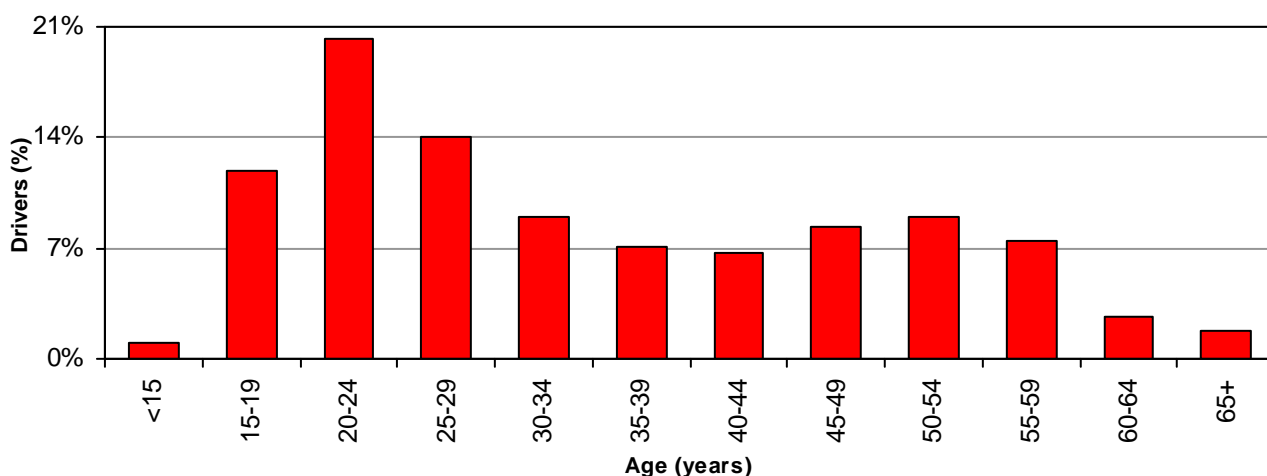
## MOTORCYCLES



### Did you know in 2006:

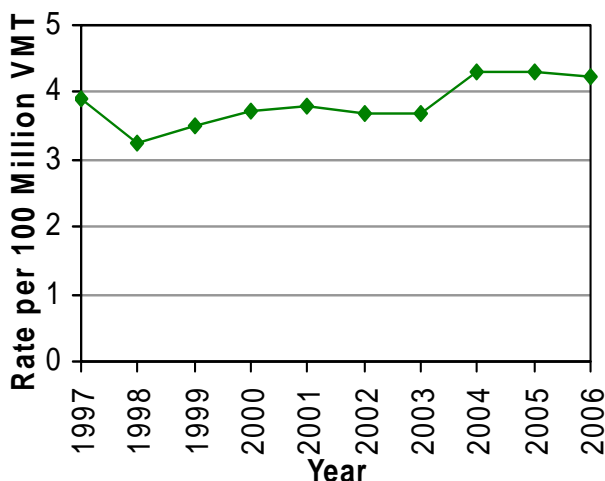
- There were 993 motorcycle crashes in Utah, resulting in 899 injured motorcyclists and 24 motorcyclist deaths.
- Motorcyclists accounted for 0.8% of persons in crashes and 8.4% of deaths.
- Compared to 2005, there was a 8% decrease in the rate per registered motorcycle of motorcyclists killed in crashes and a 10% decrease in the rate of motorcyclists in crashes.
- Nearly all (86%) of the motorcycle crashes resulted in an injury or death compared to 33% of all motor vehicle crashes.
- Motorcyclists were 12 times more likely to be killed in a crash than other persons in crashes.

### Age of Motorcycle Drivers in All Crashes (Utah 2006)



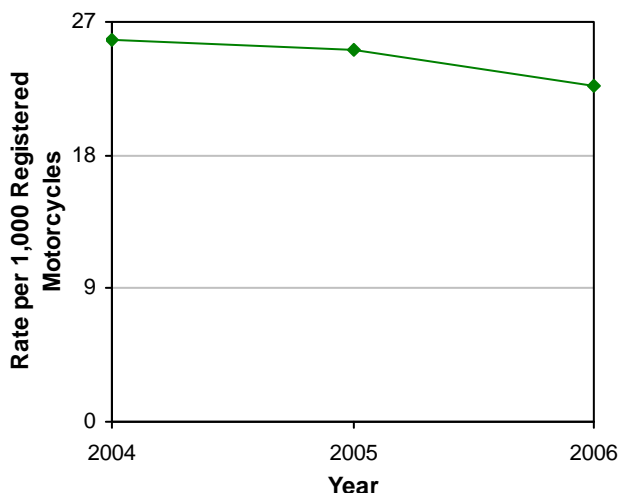
- Nearly one-half (47%) of motorcycle drivers in crashes were under the age of 30 years.

### Motorcyclist Crash Rates per Vehicle Miles Traveled (Utah 1997-2006)



- The rate of motorcyclists in crashes per vehicle miles traveled has shown an increasing trend since 1998.

### Motorcyclist Crash Rates per Registered Motorcycles (Utah 2004-2006)

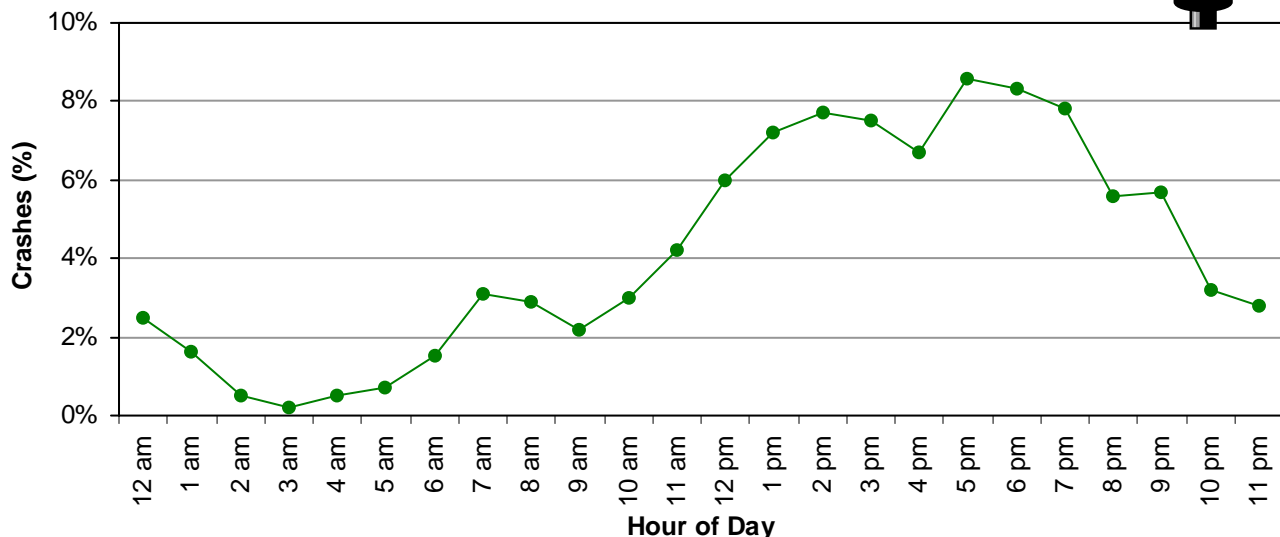


- Over the last three years, the rates of motorcyclists in crashes per registered motorcycles has followed a decreasing trend.

## MOTORCYCLES

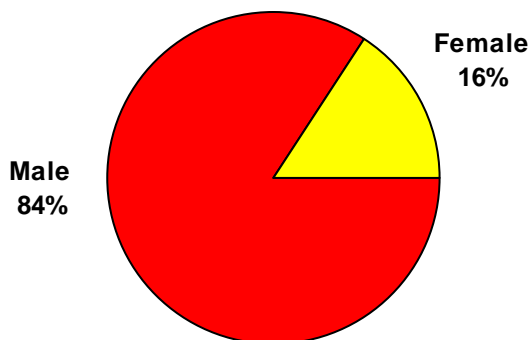


**Motorcycle Crashes by Hour of Day (Utah 2006)**



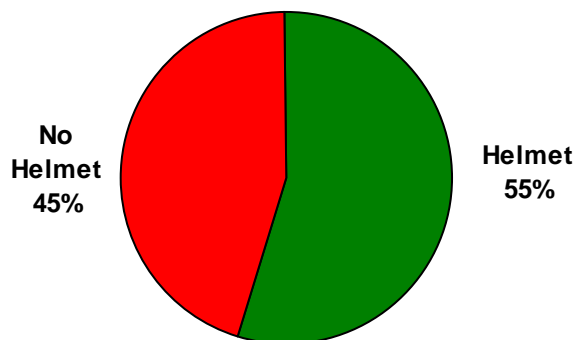
- Over half (54%) of total motorcycle crashes occurred between 1:00 p.m. and 7:00 p.m.

**Gender of Motorcyclists in Crashes (Utah 2006)**



- Most motorcyclists in crashes were male (84%).

**Helmet Use of Motorcyclists in Crashes (Utah 2006)**



- Only 55% of motorcyclists wore a helmet.
- Utah law requires anyone under the age of 18 years riding a motorcycle to wear a helmet.

**Leading Motorcycle Crash Contributing Factors (Utah 2006)**

1. Speed Too Fast (14%)
2. Defective Condition of Vehicle (8%)
3. Followed Too Closely (8%)
4. Ran Off Road (8%)
5. Driver Distraction (6%)



**Left Turns**

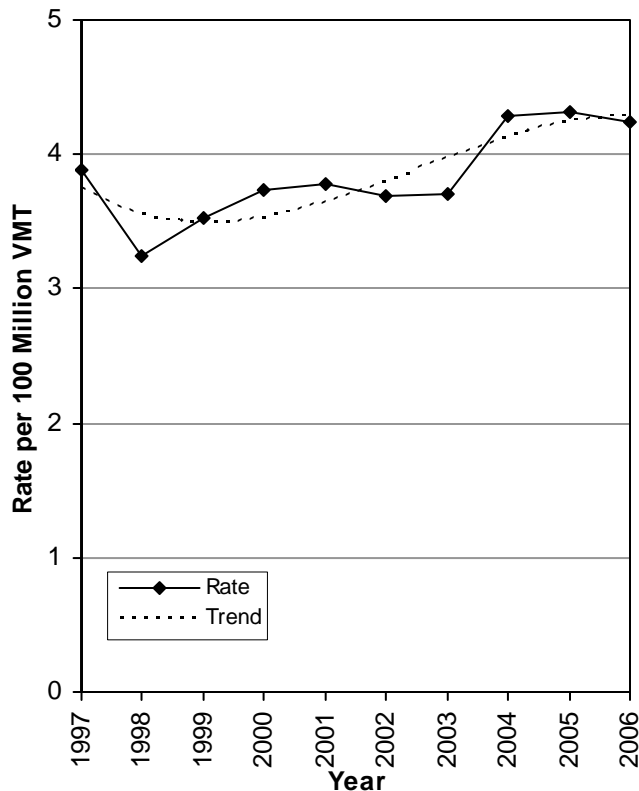
- Nearly one-third (32%) of drivers who hit motorcycles were turning left. Drivers need to watch for motorcycles before turning.

## Trends

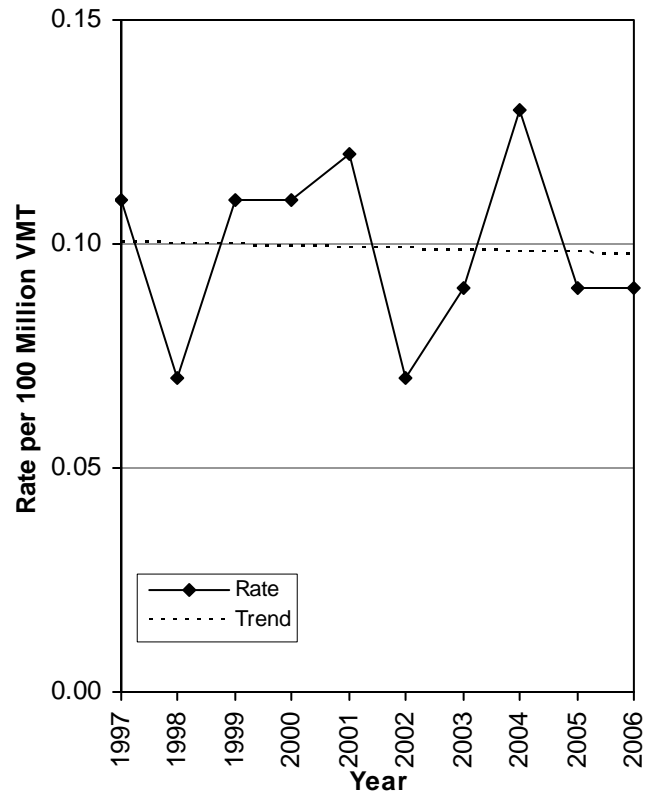
### Motorcyclists in Crashes [Utah 1997-2006]

Motorcyclists (Driver and Passenger)								
Year	Non-Injured		Injured		Killed		Total	
	#	Rate per 100 Million VMT	#	Rate per 100 Million VMT	#	Rate per 100 Million VMT	#	Rate per 100 Million VMT
1997	120	0.59	652	3.19	22	0.11	794	3.89
1998	93	0.44	584	2.75	14	0.07	691	3.25
1999	76	0.35	671	3.07	23	0.11	770	3.52
2000	124	0.55	694	3.08	24	0.11	842	3.74
2001	124	0.53	733	3.13	28	0.12	885	3.78
2002	130	0.53	755	3.09	18	0.07	903	3.69
2003	134	0.56	730	3.05	22	0.09	886	3.70
2004	149	0.60	877	3.56	31	0.13	1,057	4.29
2005	192	0.76	871	3.47	23	0.09	1,086	4.32
2006	186	0.71	899	3.44	24	0.09	1,109	4.24
<b>Total</b>	<b>1,328</b>	<b>0.64</b>	<b>7,466</b>	<b>3.60</b>	<b>229</b>	<b>0.11</b>	<b>9,023</b>	<b>4.35</b>

#### Motorcyclist Crash Rates per VMT (Utah 1997-2006)



#### Motorcyclist Death Rates per VMT (Utah 1997-2006)



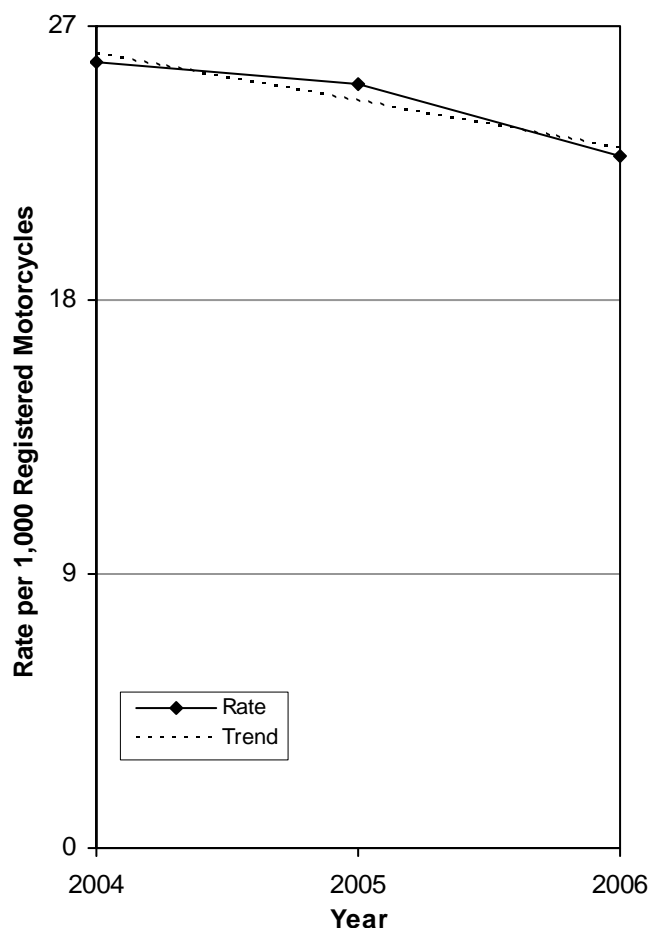
- Overall, the rate of motorcyclists in crashes has shown an increasing trend since 1998.
- 2005 had the highest (4.32) rate of total motorcyclists in crashes per VMT.
- The rate of motorcyclists killed in crashes has varied over time fluctuating around the 10-year rate of 0.11 per 100 million VMT.

## Trends

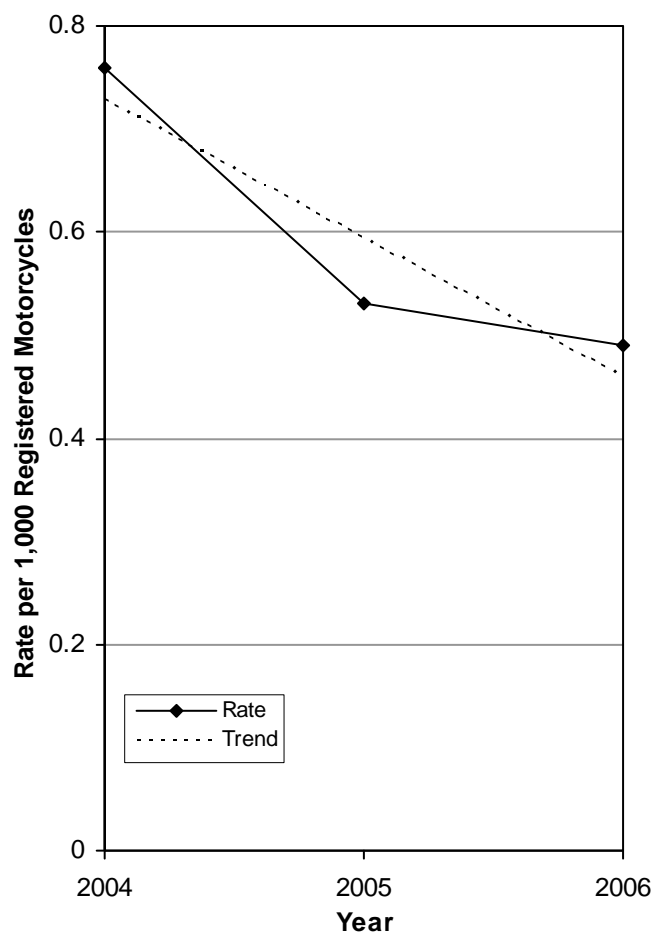
### Motorcyclist Crash Rates per Registered Motorcycles [Utah 2004-2006]

Motorcyclists (Driver and Passenger)									
Year	Registered Motorcycles	Non-Injured		Injured		Killed		Total	
		#	Rate per 1,000 Registered Motorcycles	#	Rate per 1,000 Registered Motorcycles	#	Rate per 1,000 Registered Motorcycles	#	Rate per 1,000 Registered Motorcycles
2004	40,964	149	3.6	877	21.4	31	0.76	1,057	25.8
2005	43,271	192	4.4	871	20.1	23	0.53	1,086	25.1
2006	48,949	186	3.8	899	18.4	24	0.49	1,109	22.7
<b>Total</b>	<b>133,184</b>	<b>527</b>	<b>4.0</b>	<b>2,647</b>	<b>19.9</b>	<b>78</b>	<b>0.59</b>	<b>3,252</b>	<b>24.4</b>

### Motorcyclist Total Crash Rates per Registered Motorcycles (Utah 2004-2006)



### Motorcyclist Death Rates per Registered Motorcycles (Utah 2004-2006)



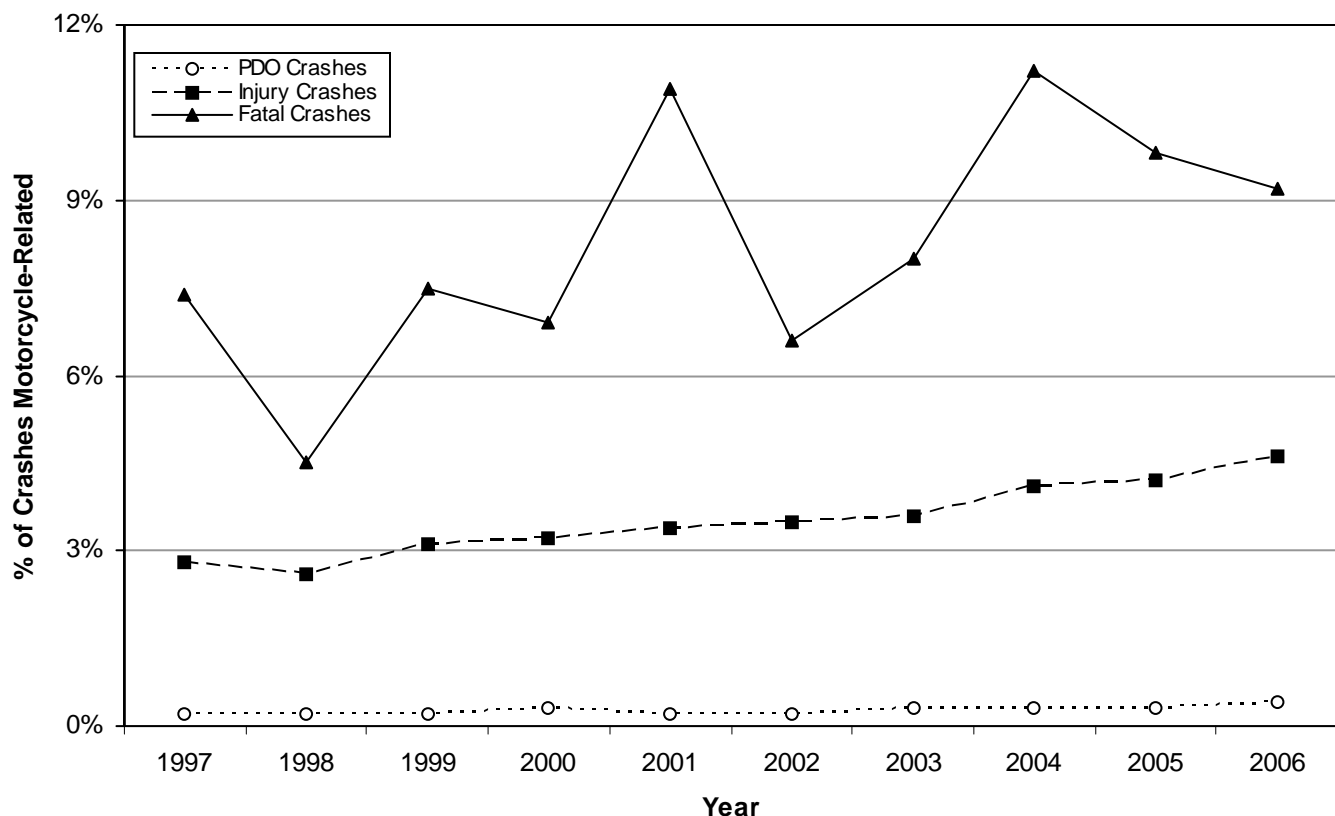
- Over the last three years, the rates of total motorcyclists in crashes per registered motorcycles has followed a decreasing trend.
- Over the last three years, the rates of motorcyclists killed in crashes per registered motorcycles has followed a decreasing trend.

## Trends

### Motorcycle Crashes [Utah 1997-2006]

Motorcycle Crashes												
Year	Property Damage Only			Injury			Fatal			Total		
	All #	Mtrcy #	Mtrcy %	All #	Mtrcy #	Mtrcy %	All #	Mtrcy #	Mtrcy %	All #	Mtrcy #	Mtrcy %
1997	33,512	80	0.2%	21,131	594	2.8%	309	23	7.4%	54,952	697	1.3%
1998	34,337	66	0.2%	19,427	509	2.6%	308	14	4.5%	54,072	589	1.1%
1999	32,971	52	0.2%	19,513	602	3.1%	318	24	7.5%	52,802	678	1.3%
2000	33,269	88	0.3%	19,564	624	3.2%	318	22	6.9%	53,151	734	1.4%
2001	33,113	82	0.2%	19,332	648	3.4%	258	28	10.9%	52,703	758	1.4%
2002	33,542	81	0.2%	19,552	689	3.5%	274	18	6.6%	53,368	788	1.5%
2003	31,842	84	0.3%	18,285	661	3.6%	262	21	8.0%	50,389	766	1.5%
2004	34,222	104	0.3%	19,423	805	4.1%	260	29	11.2%	53,905	938	1.7%
2005	35,158	117	0.3%	19,545	829	4.2%	235	23	9.8%	54,938	969	1.8%
2006	37,749	135	0.4%	18,189	835	4.6%	249	23	9.2%	56,187	993	1.8%
<b>Total</b>	<b>339,715</b>	<b>889</b>	<b>0.3%</b>	<b>193,961</b>	<b>6,796</b>	<b>3.5%</b>	<b>2,791</b>	<b>225</b>	<b>8.1%</b>	<b>536,467</b>	<b>7,910</b>	<b>1.5%</b>

### Percent of Crashes Involving a Motorcycle (Utah 1997-2006)



- The 10-year trend shows that motorcycle crashes represent 0.3% of property damage only crashes, 3.5% of injury crashes, and 8.1% of fatal crashes.
- Motorcycles are over-represented in fatal crashes accounting for 8.1% of fatal crashes compared to 1.5% of total crashes.
- During the last 10 years, the highest percent of fatal crashes involving motorcycles occurred in 2004 (11.2%).

## Counties

### Motorcyclists in Crashes by County (Utah 2006)

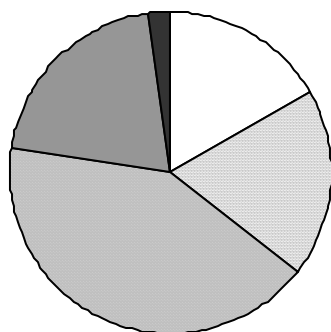
Motorcyclists (Driver and Passenger)								
	Non-Injured Persons		Injured Persons		Persons Killed		Total Persons	
		Rate		Rate		Rate		Rate
		per 100		per 100		per 100		per 100
		Million		Million		Million		Million
County	#	VMT	#	VMT	#	VMT	#	VMT
Wayne	0	0.0	7	18.2	0	0.0	7	18.2
Daggett	0	0.0	3	8.5	0	0.0	3	8.5
Morgan	1	0.7	10	7.0	0	0.0	11	7.7
Weber	18	1.2	100	6.4	0	0.0	118	7.6
Piute	0	0.0	2	7.4	0	0.0	2	7.4
Uintah	1	0.3	22	6.2	0	0.0	23	6.5
Wasatch	3	1.0	16	5.4	0	0.0	19	6.4
Washington	11	0.9	66	5.2	2	0.2	79	6.2
Grand	1	0.4	16	5.7	0	0.0	17	6.1
Kane	0	0.0	5	3.6	2	1.4	7	5.0
Salt Lake	91	1.1	323	3.8	10	0.1	424	5.0
Cache	13	1.4	33	3.4	1	0.1	47	4.9
Utah	18	0.5	131	3.6	2	0.1	151	4.1
Duchesne	4	1.8	4	1.8	0	0.0	8	3.7
Rich	0	0.0	2	3.7	0	0.0	2	3.7
Iron	0	0.0	21	3.1	2	0.3	23	3.4
Davis	9	0.4	70	2.8	1	0.0	80	3.2
Millard	4	0.9	9	1.9	1	0.2	14	3.0
San Juan	1	0.4	6	2.1	1	0.4	8	2.9
Garfield	2	1.7	1	0.9	0	0.0	3	2.6
Summit	4	0.5	12	1.6	1	0.1	17	2.3
Tooele	2	0.2	15	1.7	1	0.1	18	2.0
Emery	1	0.3	5	1.4	0	0.0	6	1.7
Sevier	0	0.0	7	1.6	0	0.0	7	1.6
Sanpete	0	0.0	4	1.6	0	0.0	4	1.6
Box Elder	1	0.1	7	0.7	0	0.0	8	0.8
Beaver	1	0.4	1	0.4	0	0.0	2	0.8
Carbon	0	0.0	1	0.3	0	0.0	1	0.3
Juab	0	0.0	0	0.0	0	0.0	0	0.0
<b>Statewide</b>	<b>186</b>	<b>0.7</b>	<b>899</b>	<b>3.4</b>	<b>24</b>	<b>0.1</b>	<b>1,109</b>	<b>4.2</b>

- Wayne (18.2), Daggett (8.5), Morgan (7.7), and Weber (7.6) counties had the highest rates of motorcyclists in crashes per vehicle miles traveled.
- Juab County had no motorcyclists in crashes.
- Kane (1.4), San Juan (0.4), and Iron (0.3) counties had the highest rates of motorcyclists killed in crashes.



## Motorcyclist Characteristics (Driver and Passenger)

### Injury Severity of Motorcyclists in Crashes (Utah 2006)



16.8% □ No Injury  
 18.8% □ Possible Injury  
 42.0% □ Non-Incapacitating Injury  
 20.3% ■ Incapacitating Injury  
 2.2% ■ Death

- The percentage of motorcyclists sustaining a non-fatal injury (81.1%) was much higher than the percentage of all motor vehicle crash occupants sustaining a non-fatal injury (18.7%).
- The percentage of motorcyclists killed in crashes (2.2%) was higher than the percentage for all persons killed in motor vehicle crashes (0.2%). In fact, motorcyclists were 12 times more likely to be killed in a crash than other persons in motor vehicle crashes.

### Occupant Placement of Motorcyclists in Crashes (Utah 2006)

Motorcyclists (Driver and Passenger)								
Occupant Placement	Non-Injured		Injured		Killed		Total	
	#	%	#	%	#	%	#	%
Driver	164	88.2%	818	91.0%	19	79.2%	1,001	90.3%
Passenger	22	11.8%	81	9.0%	5	20.8%	108	9.7%
<b>Total</b>	<b>186</b>	<b>100.0%</b>	<b>899</b>	<b>100.0%</b>	<b>24</b>	<b>100.0%</b>	<b>1,109</b>	<b>100.0%</b>

- Drivers accounted for the majority of motorcyclists in a crash (90.3%) and motorcyclists killed (79.2%).

### Gender of Motorcyclists in Crashes (Utah 2006)

Motorcyclists (Driver and Passenger)								
Gender	Non-Injured		Injured		Killed		Total	
	#	%	#	%	#	%	#	%
Male	155	83.3%	752	83.6%	18	75.0%	925	83.4%
Female	22	11.8%	145	16.1%	6	25.0%	173	15.6%
Missing	9	4.8%	2	0.2%	0	0.0%	11	1.0%
<b>Total</b>	<b>186</b>	<b>100.0%</b>	<b>899</b>	<b>100.0%</b>	<b>24</b>	<b>100.0%</b>	<b>1,109</b>	<b>100.0%</b>

- The majority of all motorcyclists (83.4%) and motorcyclists killed (75.0%) in crashes were male.

## Motorcyclist Characteristics (Driver and Passenger)

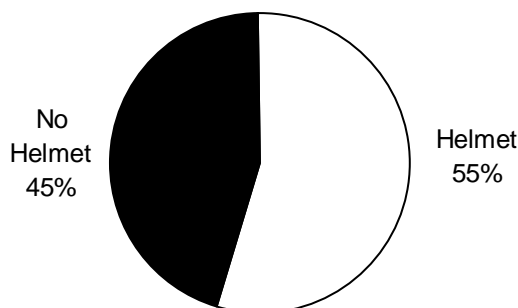
### Age of Motorcyclists in Crashes (Utah 2006)

Motorcyclists (Driver and Passenger)								
	Non-Injured		Injured		Killed		Total	
Age	#	%	#	%	#	%	#	%
0-4	0	0.0%	1	0.1%	0	0.0%	1	0.1%
5-9	1	0.5%	8	0.9%	0	0.0%	9	0.8%
10-14	0	0.0%	12	1.3%	0	0.0%	12	1.1%
15-19	23	12.4%	109	12.1%	4	16.7%	136	12.3%
20-24	34	18.3%	186	20.7%	5	20.8%	225	20.3%
25-29	28	15.1%	118	13.1%	2	8.3%	148	13.3%
30-34	14	7.5%	77	8.6%	1	4.2%	92	8.3%
35-39	17	9.1%	58	6.5%	3	12.5%	78	7.0%
40-44	14	7.5%	56	6.2%	1	4.2%	71	6.4%
45-49	14	7.5%	76	8.5%	1	4.2%	91	8.2%
50-54	16	8.6%	80	8.9%	4	16.7%	100	9.0%
55-59	11	5.9%	66	7.3%	2	8.3%	79	7.1%
60-64	3	1.6%	25	2.8%	1	4.2%	29	2.6%
65+	2	1.1%	17	1.9%	0	0.0%	19	1.7%
Missing	9	4.8%	10	1.1%	0	0.0%	19	1.7%
<b>Total</b>	<b>186</b>	<b>100.0%</b>	<b>899</b>	<b>100.0%</b>	<b>24</b>	<b>100.0%</b>	<b>1,109</b>	<b>100.0%</b>

- Overall, the largest percentages of motorcyclists in crashes were aged 20-24 years (20.3%), 25-29 years (13.3%), and 15-19 years (12.3%).
- The highest percentages of motorcyclist deaths occurred in the 20-24 year age group (20.8%), the 15-19 year age group (16.7%), and the 50-54 year age group (16.7%).

### Helmet Use of Motorcyclists in Crashes (Utah 2006)

Motorcyclists (Driver and Passenger)								
	Non-Injured		Injured		Killed		Total	
Helmet Use	#	%	#	%	#	%	#	%
Helmet Worn	59	31.7%	446	49.6%	8	33.3%	513	46.3%
Helmet Not Worn	54	29.0%	359	39.9%	15	62.5%	428	38.6%
Unknown	73	39.2%	94	10.5%	1	4.2%	168	15.1%
<b>Total</b>	<b>186</b>	<b>100.0%</b>	<b>899</b>	<b>100.0%</b>	<b>24</b>	<b>100.0%</b>	<b>1,109</b>	<b>100.0%</b>

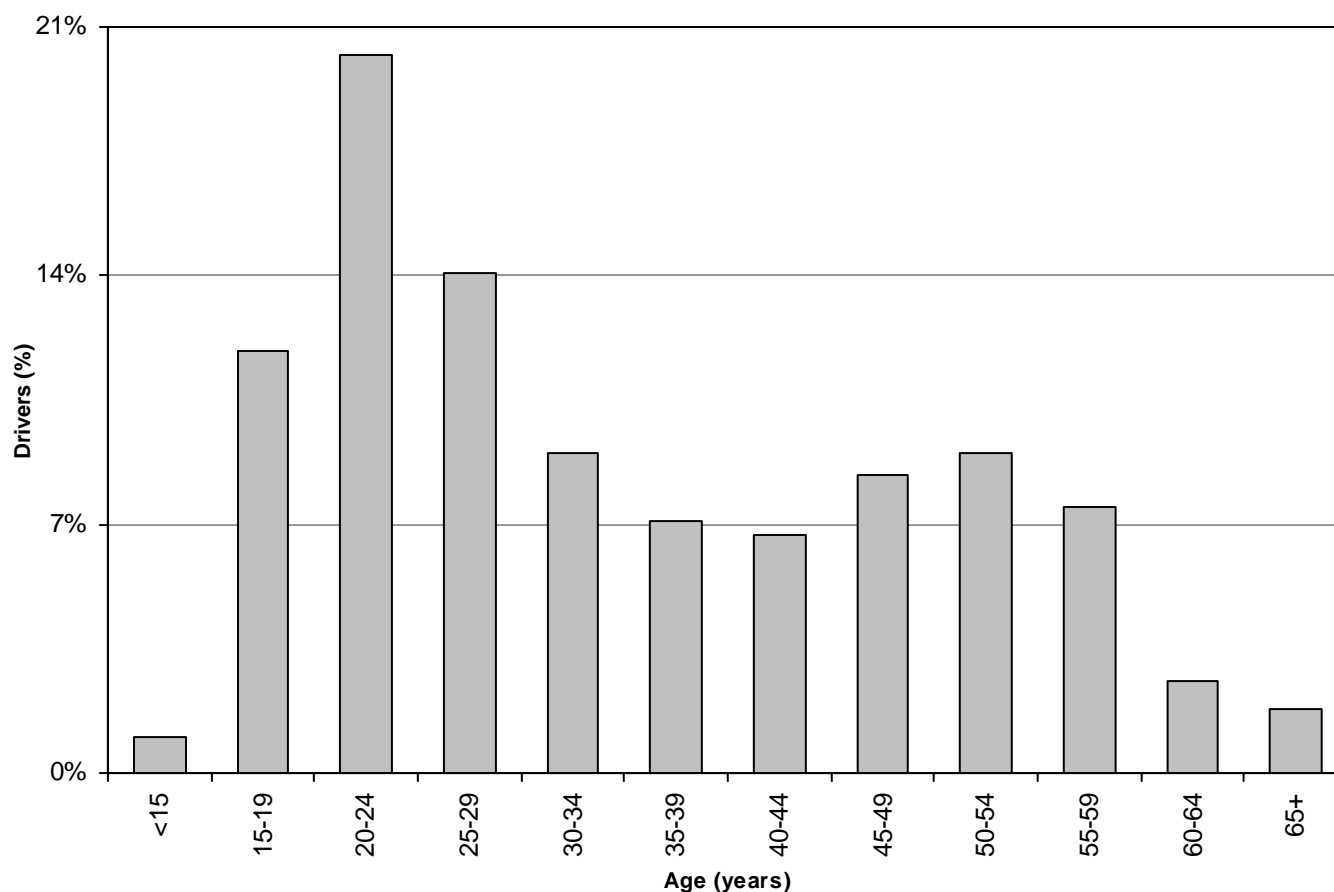


- Only 54.5% of the motorcyclists in crashes wore a helmet, where helmet use was known.
- 15 of the 24 motorcyclists killed in crashes (62.5%) were not wearing a helmet.
- Motorcyclists not wearing a helmet were 2.3 times more likely to die in a crash than helmeted motorcyclists.

## Motorcycle Driver Characteristics

### Motorcycle Driver Age (Utah 2006)

Motorcycle Drivers								
Age	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
<15	1	0.8%	9	1.1%	0	0.0%	10	1.0%
15-19	13	10.2%	102	12.0%	4	17.4%	119	11.9%
20-24	25	19.5%	174	20.4%	4	17.4%	203	20.2%
25-29	19	14.8%	120	14.1%	2	8.7%	141	14.1%
30-34	11	8.6%	77	9.0%	2	8.7%	90	9.0%
35-39	12	9.4%	56	6.6%	3	13.0%	71	7.1%
40-44	9	7.0%	57	6.7%	1	4.3%	67	6.7%
45-49	9	7.0%	74	8.7%	1	4.3%	84	8.4%
50-54	13	10.2%	74	8.7%	3	13.0%	90	9.0%
55-59	9	7.0%	64	7.5%	2	8.7%	75	7.5%
60-64	2	1.6%	23	2.7%	1	4.3%	26	2.6%
65+	2	1.6%	16	1.9%	0	0.0%	18	1.8%
Missing	3	2.3%	6	0.7%	0	0.0%	9	0.9%
<b>Total</b>	<b>128</b>	<b>100.0%</b>	<b>852</b>	<b>100.0%</b>	<b>23</b>	<b>100.0%</b>	<b>1,003</b>	<b>100.0%</b>

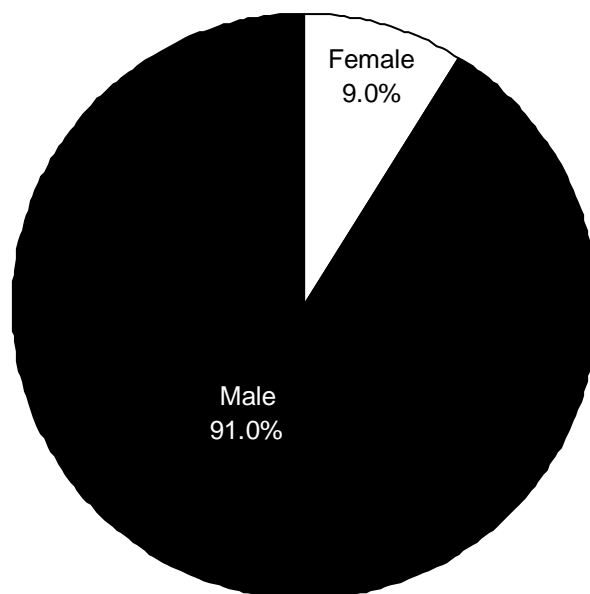


- Nearly one-half (47.2%) of the motorcycle drivers in crashes were under the age of 30 years.
- The percentages of drivers in fatal crashes was highest for those aged 15-19 years (17.4%) and 20-24 years (17.4%).

## Motorcycle Driver Characteristics

### Motorcycle Driver Gender (Utah 2006)

Motorcycle Drivers								
Gender	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Male	121	94.5%	765	89.8%	22	95.7%	908	90.5%
Female	6	4.7%	83	9.7%	1	4.3%	90	9.0%
Missing	1	0.8%	4	0.5%	0	0.0%	5	0.5%
<b>Total</b>	<b>128</b>	<b>100.0%</b>	<b>852</b>	<b>100.0%</b>	<b>23</b>	<b>100.0%</b>	<b>1,003</b>	<b>100.0%</b>



- The majority of motorcycle drivers in total crashes (92.0%) and fatal crashes (95.7%) were male.

### Alcohol and Other Drug Involvement of Motorcycle Drivers (Utah 2006)

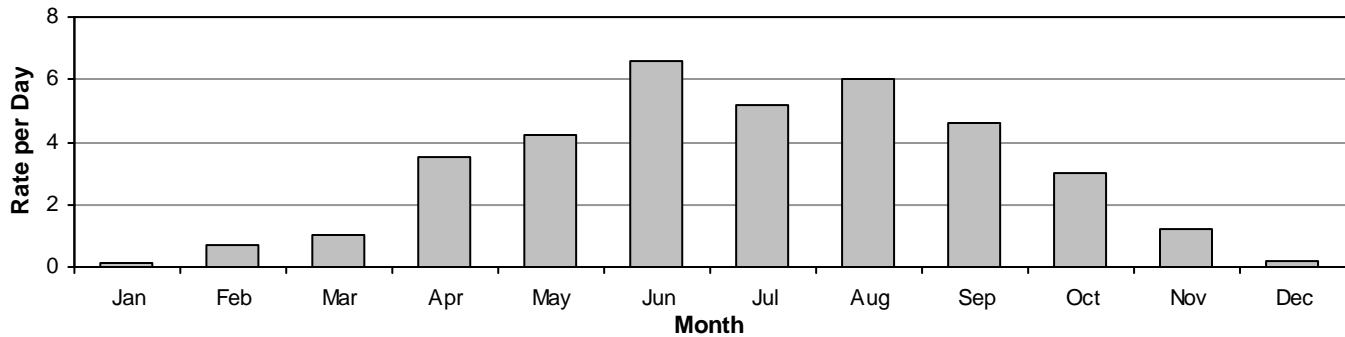


- Of the 23 motorcycle drivers in fatal crashes in 2006, two were impaired by alcohol or other drugs (8.7%).

## Motorcycle Crash Characteristics

### Motorcyclists in Crashes by Month of Year (Utah 2006)

Motorcyclists (Driver and Passenger)									
	Days in	Non-Injured		Injured		Killed		Total	
	Month		Rate		Rate		Rate		Rate
Month	#	#	per Day	#	per Day	#	per Day	#	per Day
January	31	2	0.1	2	0.1	0	0.00	4	0.1
February	28	6	0.2	14	0.5	0	0.00	20	0.7
March	31	5	0.2	22	0.7	3	0.10	30	1.0
April	30	11	0.4	92	3.1	3	0.10	106	3.5
May	31	16	0.5	113	3.6	2	0.06	131	4.2
June	30	37	1.2	157	5.2	5	0.17	199	6.6
July	31	23	0.7	136	4.4	2	0.06	161	5.2
August	31	30	1.0	152	4.9	3	0.10	185	6.0
September	30	24	0.8	112	3.7	3	0.10	139	4.6
October	31	22	0.7	68	2.2	2	0.06	92	3.0
November	30	8	0.3	28	0.9	1	0.03	37	1.2
December	31	2	0.1	3	0.1	0	0.00	5	0.2
<b>Total</b>	<b>365</b>	<b>186</b>	<b>0.5</b>	<b>899</b>	<b>2.5</b>	<b>24</b>	<b>0.07</b>	<b>1,109</b>	<b>3.0</b>



- May through September had the highest rates per day of total motorcycle crashes. Very few motorcycle crashes occurred in the winter months, this is likely due to the decrease of individuals riding motorcycles in the winter.

### Motorcyclists in Crashes by Day of Week (Utah 2006)

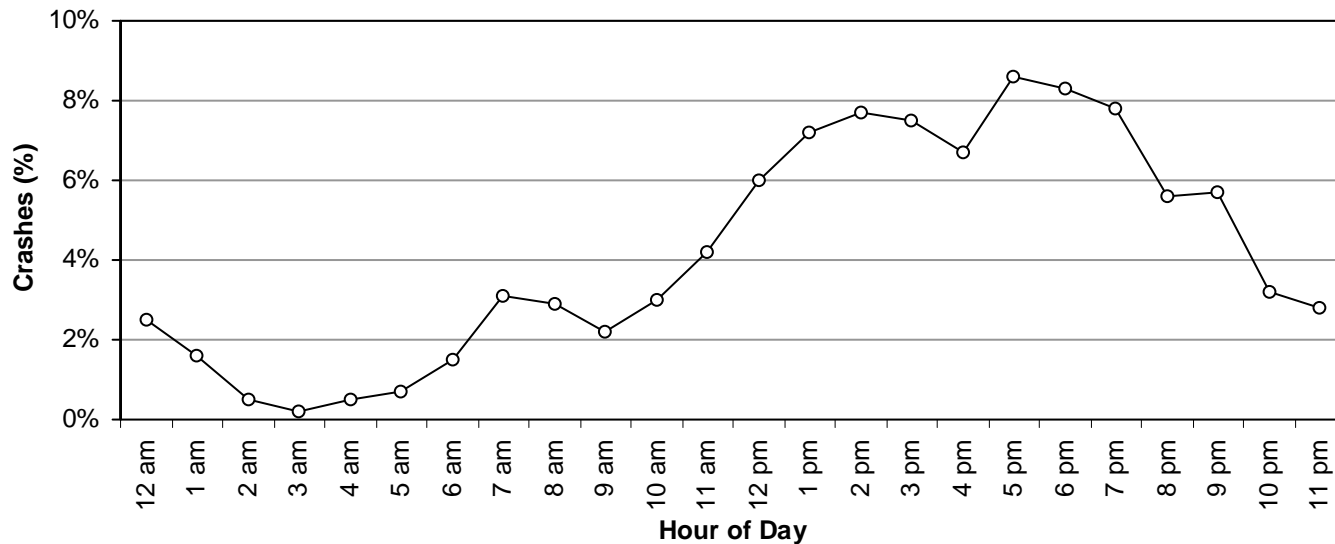
Motorcyclists (Driver and Passenger)								
	Non-Injured		Injured		Killed		Total	
Day of Week	#	%	#	%	#	%	#	%
Sunday	23	12.4%	118	13.1%	5	20.8%	146	13.2%
Monday	24	12.9%	108	12.0%	2	8.3%	134	12.1%
Tuesday	29	15.6%	97	10.8%	2	8.3%	128	11.5%
Wednesday	24	12.9%	111	12.3%	3	12.5%	138	12.4%
Thursday	24	12.9%	126	14.0%	4	16.7%	154	13.9%
Friday	22	11.8%	145	16.1%	3	12.5%	170	15.3%
Saturday	40	21.5%	194	21.6%	5	20.8%	239	21.6%
<b>Total</b>	<b>186</b>	<b>100.0%</b>	<b>899</b>	<b>100.0%</b>	<b>24</b>	<b>100.0%</b>	<b>1,109</b>	<b>100.0%</b>

- The highest percentage of total motorcycle crashes occurred on Saturday (21.6%).
- Fatal motorcycle crashes occurred most frequently on Saturday (20.8%) and Sunday (20.8%).

## Motorcycle Crash Characteristics

### Motorcyclists in Crashes by Hour of Day (Utah 2006)

Motorcyclists (Driver and Passenger)								
Hour	Non-Injured		Injured		Killed		Total	
	#	%	#	%	#	%	#	%
Midnight	6	3.2%	21	2.3%	1	4.2%	28	2.5%
1 a.m.	4	2.2%	14	1.6%	0	0.0%	18	1.6%
2 a.m.	1	0.5%	5	0.6%	0	0.0%	6	0.5%
3 a.m.	0	0.0%	2	0.2%	0	0.0%	2	0.2%
4 a.m.	2	1.1%	3	0.3%	0	0.0%	5	0.5%
5 a.m.	1	0.5%	6	0.7%	1	4.2%	8	0.7%
6 a.m.	4	2.2%	13	1.4%	0	0.0%	17	1.5%
7 a.m.	1	0.5%	33	3.7%	0	0.0%	34	3.1%
8 a.m.	7	3.8%	23	2.6%	2	8.3%	32	2.9%
9 a.m.	1	0.5%	22	2.4%	1	4.2%	24	2.2%
10 a.m.	6	3.2%	27	3.0%	0	0.0%	33	3.0%
11 a.m.	7	3.8%	40	4.4%	0	0.0%	47	4.2%
Noon	14	7.5%	52	5.8%	1	4.2%	67	6.0%
1 p.m.	16	8.6%	63	7.0%	1	4.2%	80	7.2%
2 p.m.	8	4.3%	75	8.3%	2	8.3%	85	7.7%
3 p.m.	13	7.0%	69	7.7%	1	4.2%	83	7.5%
4 p.m.	17	9.1%	57	6.3%	0	0.0%	74	6.7%
5 p.m.	23	12.4%	69	7.7%	3	12.5%	95	8.6%
6 p.m.	15	8.1%	76	8.5%	1	4.2%	92	8.3%
7 p.m.	12	6.5%	72	8.0%	3	12.5%	87	7.8%
8 p.m.	9	4.8%	53	5.9%	0	0.0%	62	5.6%
9 p.m.	9	4.8%	50	5.6%	4	16.7%	63	5.7%
10 p.m.	2	1.1%	31	3.4%	2	8.3%	35	3.2%
11 p.m.	8	4.3%	23	2.6%	0	0.0%	31	2.8%
Unknown	0	0.0%	0	0.0%	1	4.2%	1	0.1%
<b>Total</b>	<b>186</b>	<b>100.0%</b>	<b>899</b>	<b>100.0%</b>	<b>24</b>	<b>100.0%</b>	<b>1,109</b>	<b>100.0%</b>



- In 2006, over half (53.7%) of total motorcycle crashes occurred between 1:00 p.m. and 7:00 p.m.
- Motorcyclist deaths were highest at 9:00 p.m. (16.7%), 5:00 p.m. (12.5%), and 7:00 p.m. (12.5%).

## Motorcycle Crash Characteristics

### Motorcycle Crashes by First Harmful Event (Utah 2006)

Motorcycle Crashes								
First Harmful Event	PDO Crashes		Injury Crashes		Fatal Crashes		Total Crashes	
	#	%	#	%	#	%	#	%
Collision with Another Motor Vehicle	64	47.4%	304	36.4%	11	47.8%	379	38.2%
Overturn/Rollover	4	3.0%	75	9.0%	0	0.0%	79	8.0%
Fell/Jumped from Vehicle	4	3.0%	39	4.7%	4	17.4%	47	4.7%
Other Non-collision	4	3.0%	43	5.1%	0	0.0%	47	4.7%
Collision with Other Fixed Object	4	3.0%	27	3.2%	1	4.3%	32	3.2%
Collision with Animal	2	1.5%	23	2.8%	0	0.0%	25	2.5%
Collision with Concrete/Cable Barrier	3	2.2%	20	2.4%	2	8.7%	25	2.5%
Collision with Other Non-fixed Object	4	3.0%	16	1.9%	0	0.0%	20	2.0%
Collision with Embankment	0	0.0%	12	1.4%	0	0.0%	12	1.2%
Collision with Fence	0	0.0%	9	1.1%	1	4.3%	10	1.0%
Collision with Post, Pole, or Support	1	0.7%	8	1.0%	1	4.3%	10	1.0%
Collision with Bicyclist/Pedestrian	0	0.0%	7	0.8%	0	0.0%	7	0.7%
Collision with Guardrail	1	0.7%	6	0.7%	0	0.0%	7	0.7%
Collision with Ditch	2	1.5%	4	0.5%	0	0.0%	6	0.6%
Collision with Parked Vehicle	3	2.2%	2	0.2%	0	0.0%	5	0.5%
Collision with Tree/Shrubbery	0	0.0%	2	0.2%	2	8.7%	4	0.4%
Collision with Mailbox/Fire Hydrant	1	0.7%	1	0.1%	0	0.0%	2	0.2%
Collision with Thrown or Fallen Object	0	0.0%	1	0.1%	1	4.3%	2	0.2%
Collision with Train	0	0.0%	1	0.1%	0	0.0%	1	0.1%
Unknown	38	28.1%	235	28.1%	0	0.0%	273	27.5%
<b>Total</b>	<b>135</b>	<b>100.0%</b>	<b>835</b>	<b>100.0%</b>	<b>23</b>	<b>100.0%</b>	<b>993</b>	<b>100.0%</b>

- For all motorcycle crashes, the leading first harmful event was collision with another motor vehicle.
- For total motorcycle crashes, overturn/rollover (8.0%) and fell/jumped from vehicle (4.7%) were the next highest first harmful events.
- For fatal crashes, fell/jumped from vehicle (17.4%), collision with concrete/cable barrier (8.7%), and collision with tree/shrubbery (8.7%) were the next highest first harmful events.

### Motorcycle Crashes by Collision Description (Utah 2006)

Motorcycle Crashes (Two or More Motor Vehicles)								
Collision Description	PDO Crashes		Injury Crashes		Fatal Crashes		Total Crashes	
	#	%	#	%	#	%	#	%
Broadside	20	23.5%	182	46.9%	8	72.7%	210	43.4%
Rear End	42	49.4%	119	30.7%	3	27.3%	164	33.9%
Sideswipe	14	16.5%	55	14.2%	0	0.0%	69	14.3%
Head On	2	2.4%	21	5.4%	0	0.0%	23	4.8%
Parked Vehicle	7	8.2%	8	2.1%	0	0.0%	15	3.1%
Backing Vehicle	0	0.0%	3	0.8%	0	0.0%	3	0.6%
<b>Total</b>	<b>85</b>	<b>100.0%</b>	<b>388</b>	<b>100.0%</b>	<b>11</b>	<b>100.0%</b>	<b>484</b>	<b>100.0%</b>

- For all motorcycle crashes, the leading collision types involving two or more motor vehicles were broadside (43.4%) and rear end (33.9%).
- For fatal motorcycle crashes, the leading collision types were broadside (72.7%) and rear end (27.3%).

## Motorcycle Crash Characteristics

### Motorcycle Maneuver Prior to Crash (Utah 2006)

Motorcycles								
Vehicle Maneuver	PDO Crashes		Injury Crashes		Fatal Crashes		Total Crashes	
	#	%	#	%	#	%	#	%
Straight Ahead	75	55.1%	612	71.6%	21	91.3%	708	69.8%
Turning Left	10	7.4%	53	6.2%	0	0.0%	63	6.2%
Turning Right	4	2.9%	47	5.5%	0	0.0%	51	5.0%
Slowing in Traffic Lane	9	6.6%	40	4.7%	0	0.0%	49	4.8%
Stopped in Traffic Lane	13	9.6%	28	3.3%	1	4.3%	42	4.1%
Overtaking/Passing	1	0.7%	23	2.7%	1	4.3%	25	2.5%
Changing Lanes	6	4.4%	12	1.4%	0	0.0%	18	1.8%
Parked	7	5.1%	2	0.2%	0	0.0%	9	0.9%
Making U-turn	0	0.0%	8	0.9%	0	0.0%	8	0.8%
Entering Traffic Lane	1	0.7%	3	0.4%	0	0.0%	4	0.4%
Leaving Traffic Lane	1	0.7%	2	0.2%	0	0.0%	3	0.3%
Parking Maneuvers	1	0.7%	0	0.0%	0	0.0%	1	0.1%
Backing	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Other	4	2.9%	17	2.0%	0	0.0%	21	2.1%
Unknown	4	2.9%	8	0.9%	0	0.0%	12	1.2%
<b>Total</b>	<b>136</b>	<b>100.0%</b>	<b>855</b>	<b>100.0%</b>	<b>23</b>	<b>100.0%</b>	<b>1,014</b>	<b>100.0%</b>

- For all motorcycle crashes, the leading motorcycle maneuvers prior to the crash were straight ahead (69.8%), turning left (6.2%), and turning right (5.0%).
- For fatal crashes, the leading motorcycle maneuver prior to the crash was straight ahead (91.3%).

### Maneuver of Vehicle Other than Motorcycle Prior to Crash (Utah 2006)

Vehicles Other than Motorcycles (Motorcycle Crash)								
Vehicle Maneuver	PDO Crashes		Injury Crashes		Fatal Crashes		Total Crashes	
	#	%	#	%	#	%	#	%
Turning Left	14	14.6%	155	34.4%	8	72.7%	177	31.8%
Straight Ahead	35	36.5%	135	30.0%	1	9.1%	171	30.7%
Stopped in Traffic Lane	10	10.4%	43	9.6%	0	0.0%	53	9.5%
Slowing in Traffic Lane	9	9.4%	28	6.2%	1	9.1%	38	6.8%
Turning Right	2	2.1%	26	5.8%	1	9.1%	29	5.2%
Making U-turn	4	4.2%	16	3.6%	0	0.0%	20	3.6%
Changing Lanes	4	4.2%	14	3.1%	0	0.0%	18	3.2%
Parked	2	2.1%	11	2.4%	0	0.0%	13	2.3%
Backing	6	6.3%	3	0.7%	0	0.0%	9	1.6%
Entering Traffic Lane	3	3.1%	3	0.7%	0	0.0%	6	1.1%
Overtaking/Passing	1	1.0%	3	0.7%	0	0.0%	4	0.7%
Leaving Traffic Lane	0	0.0%	2	0.4%	0	0.0%	2	0.4%
Parking Maneuvers	1	1.0%	0	0.0%	0	0.0%	1	0.2%
Other	1	1.0%	6	1.3%	0	0.0%	7	1.3%
Unknown	4	4.2%	5	1.1%	0	0.0%	9	1.6%
<b>Total</b>	<b>96</b>	<b>100.0%</b>	<b>450</b>	<b>100.0%</b>	<b>11</b>	<b>100.0%</b>	<b>557</b>	<b>100.0%</b>

- For all motorcycle crashes, the leading maneuvers of vehicles other than motorcycles prior to the crash were turning left (31.8%), straight ahead (30.7%), and stopped in traffic lane (9.5%).
- For fatal motorcycle crashes, the leading maneuvers of vehicles other than motorcycles prior to the crash was turning left (72.7%).

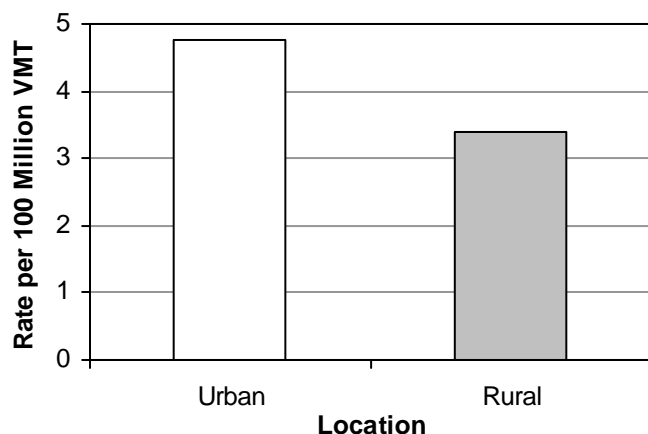


## Motorcycle Crash Characteristics

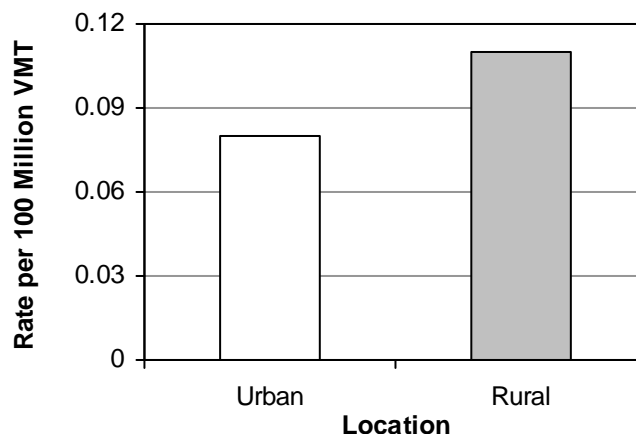
### Urban/Rural Location of Motorcyclists in Crashes (Utah 2006)

Motorcyclists (Driver and Passenger)								
Location	PDO		Injury		Fatal		Total	
	#	Rate per	#	Rate per	#	Rate per	#	Rate per
		100 Million		100 Million		100 Million		100 Million
		VMT		VMT		VMT		VMT
Urban	136	0.84	624	3.85	13	0.08	773	4.76
Rural	50	0.50	275	2.77	11	0.11	336	3.38
<b>Total</b>	<b>186</b>	<b>0.71</b>	<b>899</b>	<b>3.44</b>	<b>24</b>	<b>0.09</b>	<b>1,109</b>	<b>4.24</b>

### Urban/Rural Motorcyclist Crash Rates per VMT (Utah 2006)



### Urban/Rural Motorcyclist Fatal Rates per VMT (Utah 2006)



- Urban areas had a higher rate of total motorcycle crashes than rural areas, while rural areas had a higher rate of fatal motorcycle crashes than urban areas.

### Speed Limit (Utah 2006)

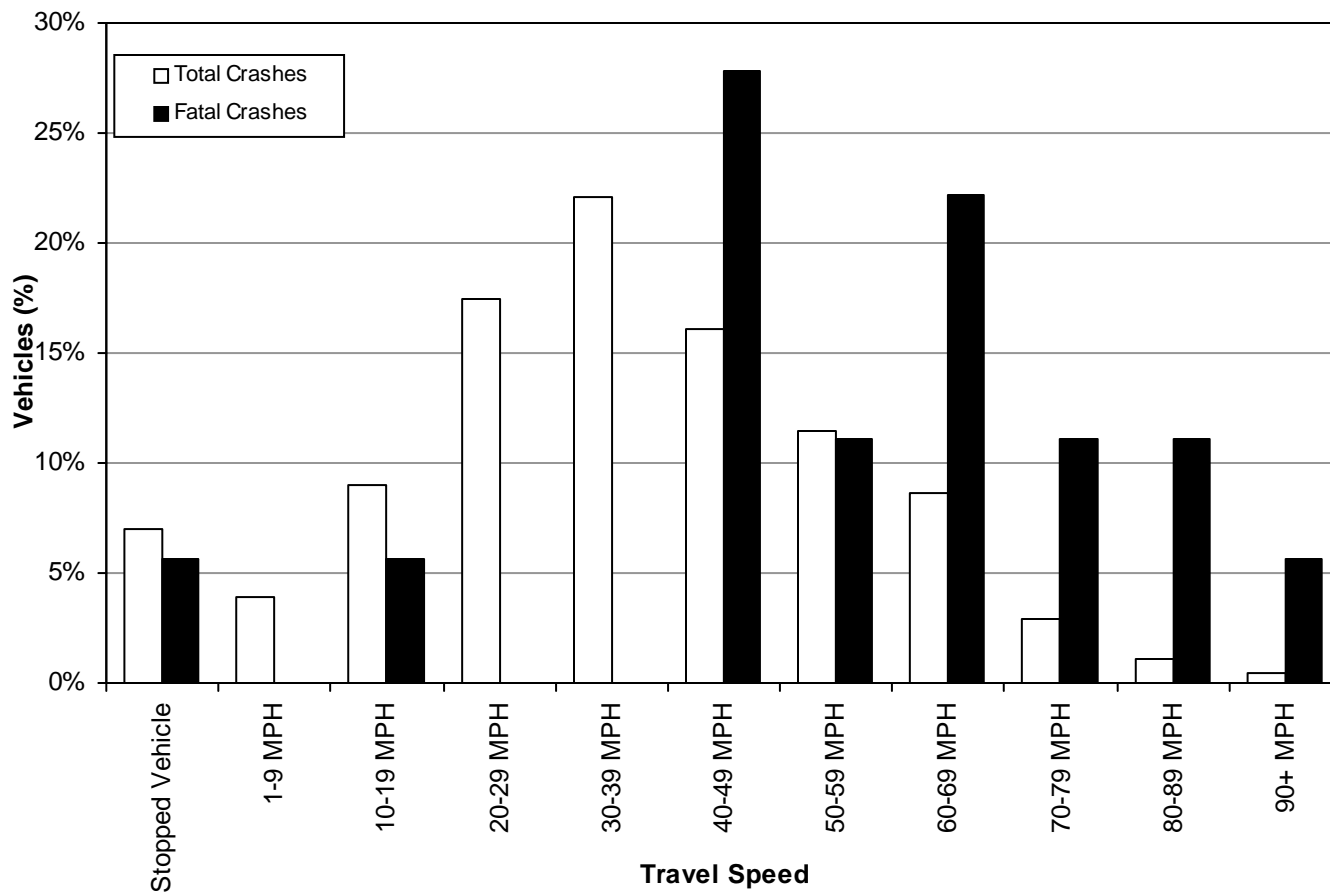
Motorcycles								
Speed Limit	PDO Crashes		Injury Crashes		Fatal Crashes		Total Crashes	
	#	%	#	%	#	%	#	%
5-15 MPH	1	0.7%	3	0.4%	0	0.0%	4	0.4%
20-25 MPH	12	8.8%	136	15.9%	3	13.0%	151	14.9%
30-35 MPH	37	27.2%	200	23.4%	4	17.4%	241	23.8%
40-45 MPH	30	22.1%	201	23.5%	8	34.8%	239	23.6%
50-55 MPH	8	5.9%	91	10.6%	3	13.0%	102	10.1%
60-65 MPH	18	13.2%	89	10.4%	2	8.7%	109	10.7%
70-75 MPH	3	2.2%	13	1.5%	1	4.3%	17	1.7%
Unknown	27	19.9%	122	14.3%	2	8.7%	151	14.9%
<b>Total</b>	<b>136</b>	<b>100.0%</b>	<b>855</b>	<b>100.0%</b>	<b>23</b>	<b>100.0%</b>	<b>1,014</b>	<b>100.0%</b>

- Over half (55.6% where speed limit was known) of total motorcycle crashes and fatal motorcycle crashes (57.1% where speed limit was known) occurred where the speed limit was 30-45 MPH.

## Motorcycle Crash Characteristics

### Travel Speed (Utah 2006)

Travel Speed	Motorcycles							
	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Stopped Vehicle	17	12.5%	38	4.4%	1	4.3%	56	5.5%
1-9 MPH	12	8.8%	19	2.2%	0	0.0%	31	3.1%
10-19 MPH	13	9.6%	58	6.8%	1	4.3%	72	7.1%
20-29 MPH	15	11.0%	125	14.6%	0	0.0%	140	13.8%
30-39 MPH	22	16.2%	155	18.1%	0	0.0%	177	17.5%
40-49 MPH	13	9.6%	111	13.0%	5	21.7%	129	12.7%
50-59 MPH	7	5.1%	83	9.7%	2	8.7%	92	9.1%
60-69 MPH	6	4.4%	59	6.9%	4	17.4%	69	6.8%
70-79 MPH	1	0.7%	20	2.3%	2	8.7%	23	2.3%
80-89 MPH	0	0.0%	7	0.8%	2	8.7%	9	0.9%
90+ MPH	1	0.7%	2	0.2%	1	4.3%	4	0.4%
Unknown	29	21.3%	178	20.8%	5	21.7%	212	20.9%
<b>Total</b>	<b>136</b>	<b>100.0%</b>	<b>855</b>	<b>100.0%</b>	<b>23</b>	<b>100.0%</b>	<b>1,014</b>	<b>100.0%</b>



- Over half (55.6% where travel speed was known) of motorcycles in total crashes were traveling 20-49 MPH.
- Motorcycles in fatal crashes were more likely to be traveling at higher speeds. Half (50.0% where travel speed was known) of the motorcycles in fatal crashes were traveling 60 MPH or higher.

## Motorcycle Crash Characteristics

### Motorcycle Crash Violations (Utah 2006)

Violations	Motorcycle Drivers							
	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Improper Lane Change/Travel	6	17.1%	31	26.3%	0	0.0%	37	24.0%
Following Too Close	6	17.1%	14	11.9%	0	0.0%	20	13.0%
Insurance Violation	6	17.1%	7	5.9%	0	0.0%	13	8.4%
License Violation	4	11.4%	9	7.6%	0	0.0%	13	8.4%
Failure to Yield Right of Way	2	5.7%	9	7.6%	0	0.0%	11	7.1%
Speed	1	2.9%	10	8.5%	0	0.0%	11	7.1%
Driving Under the Influence	0	0.0%	10	8.5%	0	0.0%	10	6.5%
Improper Lookout	2	5.7%	7	5.9%	0	0.0%	9	5.8%
Improper Turn	2	5.7%	4	3.4%	0	0.0%	6	3.9%
Registration Violation	1	2.9%	3	2.5%	0	0.0%	4	2.6%
Improper Passing	0	0.0%	3	2.5%	0	0.0%	3	1.9%
Improper Start or Stop	2	5.7%	1	0.8%	0	0.0%	3	1.9%
Equipment Violation	0	0.0%	2	1.7%	0	0.0%	2	1.3%
Failure to Stop at Stop Sign	0	0.0%	2	1.7%	0	0.0%	2	1.3%
Negligent Collision	1	2.9%	1	0.8%	0	0.0%	2	1.3%
Reckless Driving	0	0.0%	2	1.7%	0	0.0%	2	1.3%
Alcohol/Drug Violation, Other than DUI	0	0.0%	1	0.8%	0	0.0%	1	0.6%
Failure to Stop at Red Light	1	2.9%	0	0.0%	0	0.0%	1	0.6%
Improper Backing	1	2.9%	0	0.0%	0	0.0%	1	0.6%
Vehicle Homicide	0	0.0%	0	0.0%	1	100.0%	1	0.6%
Other Moving Violation	0	0.0%	2	1.7%	0	0.0%	2	1.3%
Other Non-Moving Violation	0	0.0%	0	0.0%	0	0.0%	0	0.0%
<b>Total</b>	<b>35</b>	<b>100.0%</b>	<b>118</b>	<b>100.0%</b>	<b>1</b>	<b>100.0%</b>	<b>154</b>	<b>100.0%</b>

- In 2006, there were 154 citations issued at the scene of the crash to motorcyclists. The most common moving violations were for improper lane change/travel (24.0%), following too close (13.0%), failure to yield right of way (7.1%), and speed (7.1%).

## Motorcycle Crash Characteristics

### Contributing Factors in Motorcycle Crashes (Utah 2006)

Motorcycle Drivers/Vehicles								
Contributing Factors	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Speed Too Fast	14	13.0%	105	13.7%	8	53.3%	127	14.2%
Defective Condition of Vehicle	8	7.4%	65	8.5%	1	6.7%	74	8.3%
Followed Too Closely	17	15.7%	54	7.0%	0	0.0%	71	8.0%
Ran Off Road	4	3.7%	65	8.5%	0	0.0%	69	7.7%
Other Improper Driving	5	4.6%	60	7.8%	0	0.0%	65	7.3%
Driver Distraction	5	4.6%	50	6.5%	0	0.0%	55	6.2%
Failed to Keep in Proper Lane	6	5.6%	45	5.9%	0	0.0%	51	5.7%
Swerved or Evasive Action	4	3.7%	43	5.6%	0	0.0%	47	5.3%
Overcorrected	3	2.8%	39	5.1%	0	0.0%	42	4.7%
Driving Under the Influence	3	2.8%	29	3.8%	0	0.0%	32	3.6%
Reckless/Aggressive Driving	4	3.7%	21	2.7%	6	40.0%	31	3.5%
Other Driver Condition	2	1.9%	22	2.9%	0	0.0%	24	2.7%
Failed to Yield Right of Way	5	4.6%	16	2.1%	0	0.0%	21	2.4%
Improper Lane Change	4	3.7%	17	2.2%	0	0.0%	21	2.4%
Vision Obscured by Weather Condition	4	3.7%	15	2.0%	0	0.0%	19	2.1%
Improper Passing	2	1.9%	16	2.1%	0	0.0%	18	2.0%
Disregard Traffic Signal/Sign	1	0.9%	15	2.0%	0	0.0%	16	1.8%
Improper Parking/Stopping	1	0.9%	14	1.8%	0	0.0%	15	1.7%
Driver Emotionally Upset	3	2.8%	11	1.4%	0	0.0%	14	1.6%
Vision Obscured by Moving Vehicle	2	1.9%	11	1.4%	0	0.0%	13	1.5%
Vision Obscured by Other	0	0.0%	12	1.6%	0	0.0%	12	1.3%
Vision Obscured by Glare	2	1.9%	8	1.0%	0	0.0%	10	1.1%
Improper Turn	3	2.8%	5	0.7%	0	0.0%	8	0.9%
Asleep/Fatigue	0	0.0%	6	0.8%	0	0.0%	6	0.7%
Disregard Road Markings	1	0.9%	5	0.7%	0	0.0%	6	0.7%
Hit and Run	2	1.9%	4	0.5%	0	0.0%	6	0.7%
Vision Obscured by Building, Sign, etc.	1	0.9%	4	0.5%	0	0.0%	5	0.6%
Improper Signal	1	0.9%	3	0.4%	0	0.0%	4	0.4%
Illness	1	0.9%	2	0.3%	0	0.0%	3	0.3%
Vision Obscured by Vegetation	0	0.0%	3	0.4%	0	0.0%	3	0.3%
Wrong Side/Wrong Way	0	0.0%	2	0.3%	0	0.0%	2	0.2%
Improper Backing	0	0.0%	1	0.1%	0	0.0%	1	0.1%
Vision Obscured by Parked Vehicle	0	0.0%	1	0.1%	0	0.0%	1	0.1%
<b>Total</b>	<b>108</b>	<b>100.0%</b>	<b>769</b>	<b>100.0%</b>	<b>15</b>	<b>100.0%</b>	<b>892</b>	<b>100.0%</b>

- Speed too fast (14.2%), defective condition of vehicle (8.3%), and followed too closely (8.0%) were the leading contributing factors for all motorcycle crashes.
- The leading contributing factors for fatal crashes were speed too fast (53.3%) and reckless/aggressive driving (40.0%).